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| 09/550,108 | 04/14/2000 | Thomas M. Olson | SRT-001 | 8462 |

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LAHIVE & COCKFIELD, LLP.
28 STATE STREET
BOSTON, MA 02109

EXAMINER

BATAILLE, PIERRE MICHE

| ART UNIT | PAPER NUMBER |
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2186

DATE MAILED: 12/22/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/550,108

Applicant(s)

OLSON, THOMAS M.

Examiner

Pierre-Michel Bataille

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-23 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8-9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This Office Action is taken in response to Applicant communication filed September 22, 2003 in response to Official Action dated June 18, 2003. Applicant's amendment and/or arguments have been considered with the results that follow.
2. Claims 1-23 were originally presented in the application under examination. Of the original claims, none of the claims has been cancelled, and no new claims have been added.

Response to Arguments

3. Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5, 11, 13-14, 19-21, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,694,583 (Williams et al) in view of US 6,636,963 (Stein et al).

Although the examiner is now added a new reference thereby introducing a new ground of rejection, it is the general state of a computer system, that reserved sections or partitions of a computer memory (either main memory or hard disk) designated for use by a peripheral device such as a graphical interface or audio device are not directly accessible to the main operating system upon boot-up. These designated sections are later made accessible after boot up and after running the drivers of the particular operating system device driver.

With respect to claim 1, William teaches a computer system with an operating system (DOS (disk operating system) executed by a CPU) and persistent memory (system memory) [Col. 4, Lines 32-44], comprising: a memory comprising: a non-persistent memory region (region other than protected region of the memory system), directly accessible by the operating system (provided conventional memory accesses (read/write/clear operations)); and a persistent memory region (protected region of the memory system; space in storage area for preserving BIOS emulation parameters) [Col. 4, Lines 25-29]; and an intermediary program (command for worm boot) in communication with the operating system and the persistent memory region, wherein the intermediary program enables the operating system to address a persistent memory region [Col. 4, Lines 48-58; Lines 25-39]. William is not explicit as far as a portion of volatile memory not directly written by the operating system. However, Stein teaches operational state of microprocessor-based system capable of executing multiple application programs under the supervisory control of operating system (OS) software, where the operational state involves particular code and data being stored in memory that enable the OS to maintain supervisory control

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over how the system resources are allocated to the various application processes. Stein further explains that the operational state is attained is through a boot sequence, in which the processor (CPU) first begins loading at a specific location (first non-persistent memory region) the program counter of the CPU (or instruction pointer in Intel x86 architectures) and BIOS (basic input/output system) codes contained in ROM including hardware detection and initialization and loading of the operating system by a bootstrap loader. Execution of the bootstrap loader causes access to storage medium such as hard disk, floppy, or CD-ROM to be read into system memory. [See abstract; Col. 2, Lines 15-26]. It would have been obvious to portion of volatile memory not directly written by the operating system while another portion is accessible because it would be inherently advantageous to first load system information upon booting and, if compatible with registered information of the operating system, make other peripheral device accessible to the operating system.

With respect to claims 2, Williams teaches the non-persistent memory (Floppy, hard disk, CD-ROM, non-volatile memory) and the persistent memory (main or system memory) are different physical memory [Col. 5, Line 54 to Col. 6, Line 20].

With respect to claim 3, Williams teaches the intermediary program being a device driver (BIOS included within the CPU for carrying prescribed functions including converting operating signals developed by the operating system executed by the CPU into signals compatible with devices) [Col. 8, Lines 46-50].

With respect to claim 4, William teaches a basic input/output system (BIOS), which prevents direct access to the persistent memory region by the operating system (BIOS included within the CPU for carrying prescribed functions including converting operating signals developed by the operating system executed by the CPU into signals compatible with devices) [Col. 8, Lines 46-50].

With respect to claim 5, Williams teaches the persistent memory region allocated to redundant CPU memory locations [parameters moved from BIOS to protected memory region; protected volatile memory region of said system memory and responsive to a command for a warm boot for duplicating and preserving the media emulation parameters; Col. 4, Lines 56-59; Col. 7, Lines 8-12].

With respect to claims 11, 13, 20-21 and 23, the claims recite features similar to claim 1. Therefore, Williams' disclosure meets the features of these claims.

With respect to claim 14, Williams teaches the contents of the persistent memory region retain their integrity during a boot cycle [Col. 4, Lines 56-59; Col. 7, Lines 8-12].

With respect to claim 18-19, William teaches the recited first, second and third memory regions, as described in claim 18 [Fig. 1, 5-7, and 12], and the operating system being DOS which is a Microsoft operating system.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6-9 rejected under 35 U.S.C. 103(a) as being unpatentable over 5,694,583 (Williams et al) in view of US 6,636,963 (Stein et al), and further in view of US 5,383,161 (Sanemitsu).

With respect to claims 6-9, the combination William and Stein teach the invention as claimed, but fail to teach a non-volatile memory or a file containing information concerning configuration of the persistent and/or the non-persistent memory. However, Sanemitsu teaches an IC card including a semiconductor memory having a non-writable memory region which does not permit overwriting and a writable memory region which permits overwriting of stored data [Abstract], wherein the IC card further includes a second semiconductor memory storing physical information concerning the IC card, such as capacity of the memory and access time [abstract; Col. 2, Lines 57-63]. Therefore, it would have been obvious to one having ordinary skill in the art to include, into the combined system of William and Stein, the non-volatile memory or file containing information concerning configuration of the persistent and/or the non-persistent memory, as taught by Sanemitsu because the result would have permitted proper access control of the memory card, as taught by Sanemitsu [Col. 2, Lines 26-34].

8. Claims 10, 15, and 22 rejected under 35 U.S.C. 103(a) as being unpatentable over 5,694,583 (Williams et al) in view of US 6,636,963 (Stein et al), and further in view of McNutt et al (US 5,799,324).

With respect to claims 10, 15, and 22, the combination William and Stein teach as claimed, but fail to specifically teach a look-aside buffer for buffering write requests. However, McNutt teaches a storage device partitioned into a persistent storage area and non-persistent storage area, using a collection buffer for staging write requests [Abstract; Col. 2, Line 66 to Col. 3, Line 3; Col. 3, Lines 49-53]. Therefore, it would have been obvious to one having ordinary skill in the art to include, into the combined features of William and Stein, look-aside buffer for buffering write requests, as taught by McNutt because the result would have permitted continually fast accesses over a long period of time, as taught by McNutt.

9. Claims 16-17 is rejected under 35 U.S.C. 103(a) as being unpatentable over 5,694,583 (Williams et al) in view of US 6,636,963 (Stein et al), and further in view of US 5,875,465 (Kilpatrick et al).

With respect to claims 16-17, the combination William and Stein teach the invention as claimed, but fails to specifically teach defining start address of each, the persistent storage area and non-persistent storage area. However, Kilpatrick teaches a memory cache array having a programmably sized portion locked down so that it is not replaced and the complementary programmable range portion where overwriting takes place [abstract; Col. 3, Lines 1-6]. Therefore, it would have been obvious to one having ordinary skill in the art to include the defining start address of each, the persistent storage area and non-persistent storage area, as taught by Kilpatrick because the result would have permitted dynamic partition of the storage area to be locked down and the

dynamic partition of the storage area where overwriting takes place [Col. 3, Lines 12-17].

Allowable Subject Matter

10. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre-Michel Bataille whose telephone number is (703) 305-0134. The examiner can normally be reached on Tue-Fri (7:30A to 6:00P).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew M. Kim can be reached on (703) 305-3821. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



Pierre-Michel Bataille
Primary Examiner
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